

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

15

Applicant's or agent's file reference 7713M/DQ	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US99/22396	International filing date (day/month/year) 24/09/1999	Priority date (day/month/year) 25/09/1998
International Patent Classification (IPC) or national classification and IPC C11D17/06		
Applicant THE PROCTER & GAMBLE COMPANY et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 7 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 16/03/2000	Date of completion of this report 08.12.2000
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Pfannenstein, H Telephone No. +49 89 2399 8217 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US99/22396

I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).)*

Description, pages:

1-26 as originally filed

Claims, No.:

1-8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

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(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	
	No:	Claims	1-8
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-8
Industrial applicability (IA)	Yes:	Claims	1-8
	No:	Claims	

2. Citations and explanations **see separate sheet**

VI. Certain documents cited

1. Certain published documents (Rule 70.10)

and / or

2. Non-written disclosures (Rule 70.9)

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

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Re Item V

- 1) Reference is made to the following documents:

D1 US-A-5516448, cited in the application
D2 EP-A-816485
D3 US-A-5554587
D4 US-A-5482646
D5 GB-A-2304726
D6 WO-A-9514766
- D7 US-A-5583098
D8 DE-A-19638599
D9 US-A-5698510
D10 WO-A-9325378

- 2) The search has been mainly performed in view of what is understood of claim 1 in combination with the examples and page 10.
- 3) In the description on pages 10-18 at least five general possibilities are mentioned in order to get possibly the alleged inventive granules. Said description is quite general. At least some of these possibilities are known.

In case of the suitable processes some documents are disclosed, and it appears that the use of the processes disclosed therein result in granules which deprive the present claims 1-8 of novelty, see e.g. D1 (examples, claims); the other mentioned documents cited on present pages 15-17 of the application also deprive claims 1-8 of novelty (Article 33(2) PCT).

The problem of the present application is already known, see eg. present page 2, D2, D8. Some solutions to said problem are known. Thus there are at least 5 different groups of inventions. requisite unity of invention (Rule 13.1 PCT) therefore would no longer exists inasmuch as a technical relationship involving one or more of the same or corresponding special technical features in the sense of Rule 13.2 PCT would not exist.

- 4) Point VIII, 1) is taken into account. Moreover, the equation in claim 1 is unusual.

**INTERNATIONAL PRELIMINARY
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To summarize it is not clear if the granules in the cited documents are really different from the ones in the present claims. It appears that the mentioned distribution falls within the distribution mentioned at least on present page 10. It also appears that if there is no residue on the washed fabric, see present pages 1, 5, the equation of claim 1 is met.

D2 (pages 2-3 I.2, examples) describes high bulk density detergent granules having a mean particle sizes of 800-1200 microns with a standard deviation of 100 microns. The granules show good dispersion and dissolution. Thus the subject-matter of claims 1-8 is not novel.

D1 (examples, claims) describes high bulk density detergent granules having a median particle size of e.g. 425 microns with a narrow size distribution. Thus the subject-matter of claims 1-8 is not novel.

D3 (example, col.1, I.6-17) describes high bulk density detergent granules having a mean particle size of 591 or 600 microns with a narrow size distribution, the granules have more uniform particle size distribution. Thus, the subject-matter of claims 1-8 is not novel.

D8 (examples, page 2,4,10) describes high bulk density detergent granules with a listed narrow size distribution. The granules dissolve quickly. No residue was found on the washed fabric. Thus, the subject-matter of claims 1-8 is not novel.

D9 (example 11, col.1) describes high bulk density detergent granules having a mean particle size of 720 with a mentioned size distribution (Tyler sieve). The granules have high dissolution rates, even in cold water. Thus, the subject-matter of claims 1-8 is not novel.

D10 (pages 4, examples) describes high bulk density detergent granules having a mean particle size of 540 microns with a narrow size distribution. Good dispensing and dissolution is found. 92-96% of the granules dissolve in 5 minutes. Thus, the subject-matter of claims 1-8 is not novel.

D6 (examples, pages 24-28) describes high bulk density detergent granules (low

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basic Na content) having an average particle size of 570-802 microns comprising a low content of fines, 2-9,4%. D6 shows by way of examples that there is no insoluble residue on the washed fabrics. Thus, the subject-matter of claims 1-8 is not novel.

D7 (examples) describes high bulk density detergent granules (including citrate) having an average particle size above 600 microns with a low amount of fines. It is demonstrated by way of examples that there is no residue on the washed fabrics. Thus, the subject-matter of claims 1-8 is not novel.

D4 (examples, claims) describes high bulk density detergent granules (coated with stearate) having an average particle size of 515 microns. D4 shows by way of examples that there is no insoluble residue on the washed fabrics. Thus, the subject-matter of claims 1-8 is not novel.

D5 (examples) describes high bulk density detergent granules (including soil release polymer) having an average particle size of 540-650 microns. The dissolution rate is high. D5 demonstrates by way of examples that no residue is found on the washed fabrics. Thus, the subject-matter of claims 1-8 is not novel.

For information, there exist even more documents describing particle size and its distribution or that no residue is found on the fabric.

Re Item VI

Certain published documents (Rule 70.10)

Application No		
Patent No	Publication date	
(day/month/year)	Filing date	
(day/month/year)	Priority date (valid claim)	
(day/month/year)		
WO-A-9936503	22.7.99	13.01.98

WO-A-9936503 (claims, examples) describes the subject-matter of claims 1-8.

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International application No. PCT/US99/22396

R Item VII

- 1) Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the above cited documents are not mentioned in the description, nor are these documents identified therein.
- 2) A document reflecting the prior art described on page 2 has not been identified in the description (Rule 5.1(a)(ii) PCT).

Re Item VIII

- 1) Claims 1,2,5,8 do not meet the requirements of Article 6 PCT, in that the matter for which protection is sought is not clearly defined:

The claims attempt to define the subject-matter in terms of the result to be achieved which merely amounts to a statement of the underlying problem. The technical features necessary for achieving this result must be added (PCT Guidelines IV-4.7 and 4.7a).

The claims do not provide a clear instruction to a skilled person to practice without undue burden.

The term about used in these claims is vague and indefinite and as such renders the scope of the claim unclear; accordingly, it has not been deleted (PCT Guidelines IV-4.5a).

Moreover, the unusual parameters in these claims may be used to disguise lack of novelty (PCT Guidelines IV-4.7a).

- 2) The dissolution problem relates to low dosage or compact products (i.e. high bulk density) according to page 1 whereas claim 1 requires at least 440 g/l which figure is commonly not regarded as high bulk density (see also e.g. present page 15).

PATENT COOPERATION TREATY

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P & G Patent Division
International ITC

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT
OR THE DECLARATION

(PCT Rule 44.1)

To:
THE PROCTER & GAMBLE COMPANY
Attn. REED T. & HUGHETT E.
5299 Spring Grove Avenue
CINCINNATI, OHIO 45217-1087
UNITED STATES OF AMERICA

guyt#NA
Sant#NA

B.M. Bolam
J.W. Peet/NTC
KC: Watty/ECatty/ga/file

Date of mailing
(day/month/year) 28/01/2000

Applicant's or agent's file reference
7713M/DQ

FOR FURTHER ACTION See paragraphs 1 and 4 below

International application No.
PCT/US 99/ 22396

International filing date
(day/month/year) 24/09/1999

Applicant

THE PROCTER & GAMBLE COMPANY et al.

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

Where? Directly to the International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.


4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority

 European Patent Office, P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer
Véronique Baillou

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments and any accompanying statement, under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the time of filing the amendments (and any statement) with the International Bureau, also file with the International Preliminary Examining Authority a copy of such amendments (and of any statement) and, where required, a translation of such amendments for the procedure before that Authority (see Rules 55.3(a) and 62.2, first sentence). For further information, see the Notes to the demand form (PCT/PEA/401).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 7713M/DQ	FOR FURTHER ACTION <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small>	
International application No. PCT/US 99/ 22396	International filing date (<i>day/month/year</i>) 24/09/1999	(Earliest) Priority Date (<i>day/month/year</i>) 25/09/1998
Applicant THE PROCTER & GAMBLE COMPANY et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ **None of the figures.**

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 99/22396

Box I Observations where certain claims were found unsatisfactory (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Present claims 1-8 relate to a product by reference to the following parameters:

P1: the equation of the dispersion rate defined by certain amounts of residual undispersed detergent.

The use of these parameters in the present context is considered to lead to a lack of clarity within the meaning of Article 6 PCT. It is impossible to compare the parameters the applicant has chosen to employ with what is set out in the prior art. The lack of clarity is such as to render a meaningful complete search impossible.

Furthermore, an attempt is made to define the product by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible.

Consequently the search has been restricted to the parts relating to the products mentioned in the description at page 10 and the examples.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/22396

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5516448 A	14-05-1996	AT 177471 T	15-03-1999
		AU 3505095 A	09-04-1996
		CA 2199370 A	28-03-1996
		DE 69508262 D	15-04-1999
		DE 69508262 T	14-10-1999
		EP 0783565 A	16-07-1997
		JP 10506141 T	16-06-1998
		WO 9609370 A	28-03-1996
EP 0816485 A	07-01-1998	CA 2259535 A	15-01-1998
		WO 9801520 A	15-01-1998
US 5554587 A	10-09-1996	BR 9610304 A	06-07-1999
		CA 2229482 A	27-02-1997
		CN 1198773 A	11-11-1998
		EP 0846159 A	10-06-1998
		JP 11510848 T	21-09-1999
		WO 9707196 A	27-02-1997
WO 9514766 A	01-06-1995	AU 699010 B	19-11-1998
		AU 8105894 A	13-06-1995
		BR 9408136 A	05-08-1997
		CZ 9601476 A	11-09-1996
		DE 69408160 D	26-02-1998
		DE 69408160 T	07-05-1998
		EP 0730637 A	11-09-1996
		ES 2112624 T	01-04-1998
		HU 77855 A	28-08-1998
		JP 9505348 T	27-05-1997
		PL 314463 A	16-09-1996
		SK 66196 A	04-06-1997
		TR 28740 A	28-02-1997
		US 5723428 A	03-03-1998
		ZA 9408723 A	06-05-1996
DE 19638599 A	26-03-1998	CZ 9900977 A	15-09-1999
		WO 9812299 A	26-03-1998
		EP 0931137 A	28-07-1999
		PL 331987 A	16-08-1999
US 5698510 A	16-12-1997	EP 0643130 A	15-03-1995
		CA 2171528 A	23-03-1995
		CN 1133607 A	16-10-1995
		JP 9502760 T	18-03-1997
		WO 9507968 A	23-03-1995
WO 9325378 A	23-12-1993	AU 678363 B	29-05-1997
		AU 4405493 A	04-01-1994
		CA 2138125 A,C	23-12-1993
		CN 1083521 A	09-03-1994
		CZ 9403168 A	12-07-1995
		EG 20550 A	31-07-1999
		EP 0656825 A	14-06-1995
		FI 945878 A	14-12-1994
		JP 11502236 T	23-02-1999
		MX 9303583 A	29-04-1994
		NO 944840 A	06-02-1995
		PL 172347 B	30-09-1997

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/22396

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9325378 A		TR 28636 A	04-12-1996
		US 5663136 A	02-09-1997

US 5482646 A	09-01-1996	NONE	

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<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> (21) International Application Number: PCT/US99/22396 (22) International Filing Date: 24 September 1999 (24.09.99) (30) Priority Data: <div style="display: flex; justify-content: space-between;"> <div>PCT/US98/20223</div> <div>25 September 1998 (25.09.98)</div> <div>US</div> </div> <div style="display: flex; justify-content: space-between;"> <div>60/148,258</div> <div>11 August 1999 (11.08.99)</div> <div>US</div> </div> (71) Applicant (for all designated States except US): THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): CAPECI, Scott, William [US/US]; 3285 Citation Lane, North Bend, OH 45052 (US). NORWOOD, Kevin, Todd [US/US]; 311 Hilltop Lane, Cincinnati, OH 45215 (US). MORT, Paul, R., III [US/US]; 510 Compton Road, Cincinnati, OH 45215 (US). PERKIS, Kristin, Nicole [US/US]; 1856 Tilden Avenue #2, Norwood, OH 45212 (US). BURGESS, George [GB/GB]; 81 Windburgh Drive, Southfield Lea, Cramlington, Northumberland NE23 6NT (GB). (74) Agents: REED, T., David et al.; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217-1087 (US). </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> (81) Designated States: AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KR (Utility model), KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> </td> </tr> </table>			(21) International Application Number: PCT/US99/22396 (22) International Filing Date: 24 September 1999 (24.09.99) (30) Priority Data: <div style="display: flex; justify-content: space-between;"> <div>PCT/US98/20223</div> <div>25 September 1998 (25.09.98)</div> <div>US</div> </div> <div style="display: flex; justify-content: space-between;"> <div>60/148,258</div> <div>11 August 1999 (11.08.99)</div> <div>US</div> </div> (71) Applicant (for all designated States except US): THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): CAPECI, Scott, William [US/US]; 3285 Citation Lane, North Bend, OH 45052 (US). NORWOOD, Kevin, Todd [US/US]; 311 Hilltop Lane, Cincinnati, OH 45215 (US). MORT, Paul, R., III [US/US]; 510 Compton Road, Cincinnati, OH 45215 (US). PERKIS, Kristin, Nicole [US/US]; 1856 Tilden Avenue #2, Norwood, OH 45212 (US). BURGESS, George [GB/GB]; 81 Windburgh Drive, Southfield Lea, Cramlington, Northumberland NE23 6NT (GB). (74) Agents: REED, T., David et al.; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217-1087 (US).	(81) Designated States: AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KR (Utility model), KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
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(54) Title: GRANULAR DETERGENT COMPOSITIONS HAVING IMPROVED SOLUBILITY PROFILES				
(57) Abstract <p>Granular detergent composition having an average bulk density of at least about 400 g/L and characterized by a rate of dispersion under stressed cold-water conditions as defined by the equation (1), where R is the residual undispersed detergent at any point in time, t, R is the long term residual undispersed detergent having a value of less than about 14 % of the total amount of an initial dosage of detergent, t is any single point in time, m is a stretching exponent having a value of less than about 2, DT is dispersion time having a value of less than about 0.5 and t_{wash} is the time of the wash cycle; and at least 90 % of the insoluble particulate residues of said granular detergent composition having a particle size of less than 15 µm are provided. In preferred embodiments, the detergent composition has a rate of dissolution under stressed cold-water conditions as defined by the equation (2), where U is the fraction of undissolved surfactant at any point in time, t, U is the long term surfactant residual undissolved surfactant having a value of less than about 14 % of the total amount of an initial dosage of surfactant, t is any single point in time, n is a stretching exponent having a value of less than about 2, RT is dissolution time having a value of less than about 0.5 and t_{wash} is the time of the wash cycle.</p>				

$$R = R^* + (1 - R^*) \exp \left(- \left(\frac{t}{DT(t_{wash})} \right)^m \right) \quad (1)$$

$$U = U^* + (1 - U^*) \exp \left(- \left(\frac{t}{RT(t_{wash})} \right)^n \right) \quad (2)$$

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DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 99/22396

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Present claims 1-8 relate to a product by reference to the following parameters:

P1: the equation of the dispersion rate defined by certain amounts of residual undispersed detergent.

The use of these parameters in the present context is considered to lead to a lack of clarity within the meaning of Article 6 PCT. It is impossible to compare the parameters the applicant has chosen to employ with what is set out in the prior art. The lack of clarity is such as to render a meaningful complete search impossible.

Furthermore, an attempt is made to define the product by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible.

Consequently the search has been restricted to the parts relating to the products mentioned in the description at page 10 and the examples.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.